

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 1, line 17, as follows:

--In general, a semiconductor image position sensitive device is composed of a photoelectric layer, a ~~[[deviding]]~~ dividing resistance layer laminated on the photoelectric layer, and signal current output terminals connected to the ~~[[deviding]]~~ dividing resistance layer. Such a semiconductor image position sensitive device is constituted on the basis of ~~[[such]]~~ a basic principle that when light irradiated from a spot is input to the photoelectric layer, a photoelectric current is generated in the photoelectric layer, the photoelectric current thus generated in the photoelectric layer is allowed to flow into the ~~[[deviding]]~~ dividing resistance layer, whereby the photoelectric current distributed in response to a resistance value between an inflow portion of the photoelectric current in the ~~[[deviding]]~~ dividing resistance layer and the signal current output terminals is settled, and a center~~[[of-gravitation]]~~ position of incident light into the photoelectric layer is calculated based on an electric current value output from the signal current output terminals.--

Please amend the paragraph beginning on page 2, line 15, as follows:

--Namely, FIG. 1 is a conceptual view showing the structure of a conventional semiconductor image position sequence device. __[[, and]] FIG. 2 is a conceptual diagram of an equivalent circuit exhibiting a principle of the calculation for sensing an image position in the semiconductor image position sensitive device of FIG. 1. The [[wherein the]] semiconductor image position sensitive device comprises a P-type semiconductor layer P, and insulator layer I laminated on the bottom side of the P-type semiconductor layer P, an N-type semiconductor layer N laminated on the bottom side of the insulator layer P, a resistance layer R_p for calculating an image position and which is laminated on the surface side of the P-type semiconductor layer P, a signal current output terminal A as well as a signal current output terminal B formed on the opposite ends of the resistance layer R_p on the surface side thereof, and a bias terminal C formed on the bottom side of the N-type semiconductor layer N at the central portion thereof.--

Please amend the paragraph beginning on page 3, line 3, as follows:

--In the above described semiconductor position sensitive device S, a photoelectric layer S is formed from the P-type

semiconductor layer P, the insulator layer I, and the N-type semiconductor layer N, while the ~~[[deviding]]~~ dividing resistance layer is formed from the resistance layer R_p .--

Please amend the paragraph beginning on page 4, line 1, as follows:

--In the meantime, ~~it is constituted in such that~~ the photoelectric current layer is continuous, and the resistance layer R_p being a ~~[[deviding]]~~ dividing resistance for calculating an image position is formed as a thin film superposed on the photoelectric layer S in the semiconductor image position sensitive device shown in FIGS. 1 and 2.--

Please amend the paragraph beginning on page 4, line 7, as follows:

--However, it is not so easy that the resistance layer R_p being a ~~[[deviding]]~~ dividing resistance for calculating an image position is formed stably as a uniform thin film having a predetermined resistivity, and as a result, such resistivity cannot be made constant, whereby a distribution of the resistivity becomes scattered~~[[, so that]]~~. Thus, there is a problem that the scattering becomes a factor of an error in sensing for image position.--

Please amend the paragraph beginning on page 4, line 14, as follows:

--In order to solve such a problem as described above, [[devised is]] a semiconductor image position sensitive device of separate photoelectric device type is devised wherein a photoelectric layer is fabricated as a separate photoelectric layer of a split structure separated into plural sections being independent of a [[deviding]] dividing resistance layer, while the [[deviding]] dividing resistance layer is fabricated stably as a constriction resistance at a position away from the separate photoelectric layer, and photoelectric currents generated in the split photoelectric layer having a structure which has been separated and split individually into sections are allowed to flow condensedly into positions corresponding to the [[deviding]] dividing resistance layer.--

Please amend the paragraph beginning on page 5, line 2, as follows:

--In FIG. 3, reference character Sg designates a separated photoelectric layer in the semiconductor image position sensitive device of a split photoelectric device type. According to the semiconductor image position sensitive device of a split

photoelectric device type as described above, a resistance layer R_p can be stably fabricated as a ~~[[deviding]]~~ dividing resistance for calculating an image position~~[[, whereby]]~~ Thus, errors in sensing an image position ~~[[is]]~~ are allowed to decrease, so that it is possible to improve stability in sensing an image position.--

Please amend the paragraph beginning on page 6, line 25, as follows:

--When a further specific explanation is made in this respect, a photoelectric current generated in response to the light derived from a spot image is distributed to be output in accordance with a resistance value between a flowing-in position and output terminals because of presence of a ~~[[deviding]]~~ dividing resistance in a semiconductor image position sensitive device, and when electric current values of the photoelectric currents which have been thus distributed to be output (output signal currents I_A and I_B) are calculated, a ~~[[gravitational]]~~ central position of the incident light L is determined.--

Please amend the paragraph beginning on page 9, line 2, as follows:

--In order to achieve the above described object, a semiconductor image position sensitive device according to the

present invention has been made on the basis of such face that a photoelectric current density based on noise light such as background light is considerably lower than that based on irradiation of light derived from a spot image. The present invention is further constituted in such that a photoelectric current flowing into a ~~[[deviding]]~~ dividing resistance contains dominantly a photoelectric current generated on the basis of a spot image by subtracting a substantially equal photoelectric current having a distribution of electric current density corresponding to that of an electric current generated on the basis of noise light from photoelectric currents generated in respective portions in a photoelectric layer. When it is constituted in such that a photoelectric current having a value corresponding to that of a photoelectric current based substantially on noise light is subtracted in a region where the photoelectric current based on background light and to be subtracted has a higher value than that of the photoelectric current generated on the basis of a high density of photoelectric current, in other words, an electric current obtained only from the part corresponding to an incident position of light derived from a spot image flows into a ~~[[deviding]]~~ dividing resistance.--

Please amend the paragraph beginning on page 9, line 26, as follows:

--Therefore, in accordance with a semiconductor image position sensitive device of the present invention, a ratio of contribution of a photoelectric current produced by noise light such as background light can be remarkably reduced with respect to an electric current flowing into a ~~[[deviding]]~~ dividing resistance relevant to sensing for an image position, whereby errors in sensing an image position due to noise light such as background light can be significantly reduced.--

Please amend the paragraph beginning on page 10, line 28, as follows:

--Furthermore, the semiconductor image position sensitive device of the invention ~~as defined in claim 1~~, wherein the resistance subtracts an electric current having a predetermined density distribution in a section where each density of the photoelectric currents generated in respective sections of the photoelectric layer in response to incident light is higher than the predetermined electric current density, while the resistance subtracts an electric current having a density distribution corresponding to that of the photoelectric current in a section

where each density of the photoelectric currents is lower than that of the predetermined electric current density.--

Please amend the paragraph beginning on page 11, line 11, as follows:

--Still further, the semiconductor image position sensitive device of the invention ~~is the one as defined in any of claims 1 and 2,~~ wherein the photoelectric layer generating a photoelectric current in response to intensity of light is separated into plural portions and they are adapted to act as individual photoelectric devices, respectively, photoelectric currents generated in the photoelectric device which have been separated into the plural portions are adapted to flow concentratively into the resistance layer in each of the portions corresponding to respective positions, an electric current to be subtracted having a predetermined distribution of electric current density is the one obtained by putting them corresponding to the respective separated photoelectric devices together, and remainders as a result of subtraction from the photoelectric currents of the separated photoelectric devices, respectively, are adapted to flow into the resistance layer.--

Please amend the paragraph beginning on page 11, line 28, as follows:

--Yet further, the semiconductor image position sensitive device of the invention ~~is the one defined in claim 3,~~ wherein an electric current obtained by subtracting an electric current put together from a photoelectric current is adapted to flow into the resistance layer in the case where photoelectric currents generated in response to projectile light in the respective separated photoelectric devices are larger than an electric current obtained by putting together an electric current to be subtracted having a predetermined distribution of electric current density with respect to those corresponding to the respective separated photoelectric devices, while an electric current obtained by subtracting the photoelectric currents generated in the photoelectric devices is adapted to flow into the resistance layer in the case where the former photoelectric currents are smaller than the latter electric currents.--

Please add the following paragraph after the paragraph ending on page 12, line 15:

--Further scope of the applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed

description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.--

Please amend the paragraph beginning on page 14, line 21, as follows:

--FIG. 5 shows an example of preferred embodiments of a semiconductor image position sensitive device according to the present invention wherein the semiconductor image position sensitive device is constituted in such that an electric current obtained by subtracting an amount of electric current corresponding to a current density of noise light such as background light from the photoelectric current shown in FIG. 4(b) flows into a ~~[[deviding]]~~ dividing resistance for calculating an image position.--

Please amend the paragraph beginning on page 15, line 12, as follows:

--Accordingly, it becomes possible that flowing of a photoelectric current generated on the basis of noise light such as background light into a resistance layer RP being a ~~[[deviding]]~~

dividing resistance for calculating an image position is significantly reduced by the use of the subtracting current limiting resistance r_d .--

Please amend the paragraph beginning on page 15, line 18, as follows:

--More specifically, when it is constituted in such that an electric current having a somewhat wider distribution of electric current density than that of a photoelectric current based on noise light such as background light is subtracted by means of the subtracting electric current limiting resistance r_d , a substantially equivalent value to that of the photoelectric current can be subtracted from a photoelectric current extending over a whole sensing region in reality, and as a result, only a photoelectric current based substantially on a spot image flows ideally into the resistance layer R_p being a ~~[[deviding]]~~ dividing resistance for calculating an image position as shown in FIG. 7(b).--